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10/804,326	03/18/2004	Stephen Robertson	14917.0135US01/MS306779.0	7299

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EXAMINER	
COLAN, GIOVANNA B	
ART UNIT	**PAPER NUMBER**
2162	

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01/24/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Interview Summary	Application No.	Applicant(s)	
	10/804,326	ROBERTSON ET AL.	
	Examiner	Art Unit	
	Giovanna Colan	2162	

All participants (applicant, applicant's representative, PTO personnel):

(1) *Giovanna Colan*. (3)*Ryan Grace*.

(2) *Shahid Alam*. (4)_____.

Date of Interview: *16 January 2008*.

Type: a)☒ Telephonic b)☐ Video Conference
c)☐ Personal [copy given to: 1)☐ applicant 2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☐ Yes e)☒ No.
If Yes, brief description: _____.

Claim(s) discussed: *1,9,17,26,35,38,44 and 50*.

Identification of prior art discussed: *Fleischer, Brin, Subbaroyan*.

Agreement with respect to the claims f)☐ was reached. g)☐ was not reached. h)☒ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *Applicant discussed the proposed amendments to the claims* .

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

Examiner's signature, if required

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Fax Transmission | January 8, 2008

TO:

Attn: Examiner Giovanna Colan Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450	FROM: Ryan T. Grace OUR REF: 14917.0135US01 TELEPHONE: 402-344-3000

Total pages, including cover letter: 26

PTO FAX NUMBER 1-571-273-2752

If you do NOT receive all of the pages, please telephone us at 402-344-3000, or fax us at 402-344-3008.

Title of Document Transmitted: Applicant Initiated Interview Request Form
Applicant: Stephen Robertson et al.
Serial No.: 10/804,326
Filed: March 18, 2004
Group Art Unit: 2162
Our Ref. No. 14917.0135US01
Confirmation No. 7299

By: _____
Name: Ryan T. Grace
Reg. No.: 52,956

I hereby certify that this paper is being transmitted by facsimile to the U.S. Patent and Trademark Office on the date shown below.

_____ _____
Signature Date

Applicant Initiated Interview Request Form

Application No.: 10/804,326 First Named Applicant: Robertson
Client No: 14917.0135US01
Examiner: Colan Art Unit: 2162 Status of Application: Pending

Tentative Participants:
(1) Examiner Colan (2)
(3) Ryan Grace (Phone # 402-344-3000) (4)

Proposed Date of Interview: Please call Proposed Time: Please call

Type of Interview Requested:

(1) [x] Telephonic (2) [ ] Personal (3) [ ] Video Conference

Exhibit To Be Shown or Demonstrated: [ ] Yes [ ] No
If yes, provide brief description:

Issues To Be Discussed

1. Proposed changes to the claims as indicated below for the reasons indicated below

1. (Currently amended) A method of determining a field-weighted score for a document having multiple fields relative to a query having a plurality of query terms, the method comprising:

determining fields of the document, wherein each field includes a contextual section of the document based on the document structure;

determining a field weight for each of the determined fields, wherein the field weight corresponds to a number of times for replicating the content of each of the determined fields;

replicating the content of each of the determined fields the number of times indicated by the field weight for each of the determined fields, wherein the replicated content of each field is concatenated into a field set for each of the determined fields;

~~replicating the content of each field of the document a number of times indicated by a field weight corresponding to the field to produce an individual field set corresponding to each field in the document;~~

combining each concatenated field set for each field of the document ~~into~~ to generate a virtual document including each concatenated field set for each field of the document;

indexing the virtual document to produce a virtual document statistics; and

computing the field-weighted score from the virtual document index based on the query.

2. (Original) The method of claim 1 wherein the query is associated with a search and the field-weighted score represents a level of relevance of the document to the query.

3. (Previously presented) The method of claim 1 wherein each field weight is represented by an integer value and the replicating operation comprises:

generating each field set to include a number of copies of a field of the document, wherein the number of copies equals the integer value.

4. (Cancelled)

5. (Previously presented) The method of claim 1 wherein the combining operation comprises:

concatenating each field set into the virtual document.

6. (Previously presented) The method of claim 1 wherein the computing operation comprises:

computing a field-weighted document weight for each query term in the query from the virtual document statistics.

7. (Previously presented) The method of claim 1 wherein the computing operation comprises:

computing a field-weighted document weight for each query term in the query from the virtual document statistics; and

computing the field-weighted score based on the field-weighted document weight for each query term.

8. (Previously presented) The method of claim 1 further comprising:

ranking the field-weighted score with field-weighted scores of other documents.

9. (Currently amended) A computer program product encoding a computer program for executing on a computer system a computer process for determining a field-weighted score for a document having multiple fields relative to a query having a plurality of query terms, the computer process comprising:

determining fields of the document, wherein each field includes a contextual section of the document based on the document structure;

determining a field weight for each of the determined fields, wherein the field weight corresponds to a number of times for replicating the content of each of the determined fields;

replicating the content of each of the determined fields the number of times indicated by the field weight for each of the determined fields, wherein the replicated content of each field is concatenated into a field set for each of the determined fields;

~~replicating the content of each field of the document a number of times indicated by a field weight corresponding to the field to produce an individual field set corresponding to each field in the document;~~

combining each concatenated field set for each field of the document ~~into~~ to generate a virtual document including each concatenated field set for each field of the document;

indexing the virtual document to produce a virtual document statistics; and

computing the field-weighted score from the virtual document index based on the query.

10. (Original) The computer program product of claim 9 wherein the query is associated with a search and the field-weighted score represents a level of relevance of the document to the query.

11. (Original) The computer program product of claim 9 wherein each field weight is represented by an integer value and the replicating operation comprises:

generating each field set to include a number of copies of a field of the document, wherein the number of copies equals the integer value.

12. (Cancelled)

13. (Previously presented) The computer program product of claim 9 wherein the combining operation comprises:

concatenating each field set into the virtual document.

14. (Previously presented) The computer program product of claim 9 wherein the computing operation comprises:

computing a field-weighted document weight for each query term in the query from the virtual document statistics.

15. (Previously presented) The computer program product of claim 9 wherein the computing operation comprises:

computing a field-weighted document weight for each query term in the query from the virtual document statistics; and

computing the field-weighted score based on the field-weighted document weight for each query term.

16. (Previously presented) The computer program product of claim 9 further comprising:

ranking the field-weighted score with field-weighted scores of other documents.

17. (Currently amended) A method of determining a field-weighted score for a document having multiple fields relative to a query having a plurality of query terms, the method comprising:

determining fields of the document, wherein each field includes a contextual section of the document;

determining a field-specific term frequency for each of the determined fields ~~field~~ in the document for each query term;

weighting each field-specific term frequency according to a field weight designated for the ~~corresponding~~ field to compute a field-weighted term frequency for each query term, wherein the field weight is different between fields, wherein the field weight indicates the relevance of the field in the document based on a query type;

computing a field-weighted document weight for each query term based on the field-weighted term frequency for each query term; and

computing the field-weighted score as a function of the field-weighted document weight of all query terms.

18. (Original) The method of claim 17 wherein the query is associated with a search and the field-weighted score represents a level of relevance of the document to the query.

19. (Previously presented) The method of claim 17 further comprising:

computing a field-weighted document length based on a field weight for each field and a field length for each field, wherein the operation of computing a field-weighted document weight comprises computing a field-weighted document weight for each query term based on the field-weight term frequency for each query term and the field-weighted document length.

20. (Previously presented) The method of claim 17 further comprising:

computing a field-weighted document length based on a field weight for each field and a field length for each field by summing at least one weighted field lengths of the fields in the document, each weighted field length being a field length weighted by a corresponding field weight.

21. (Previously presented) The method of claim 17 further comprising:

computing a field-weighted document length based on a field weight for each field and a field length for each field by summing at least one weighted field length of the

fields in the document, each weighted field length being a field length weighted by a corresponding field weight, wherein the operation of computing a field-weighted document weight comprises computing a field-weighted document weight for each query term based on the field-weight term frequency for each query term and the field-weighted document length.

22. (Previously presented) The method of claim 17 wherein the determining operation comprises:

determining the field-specific term frequency for each field from document statistics associated with the document, the document statistics including a field-weighted term frequency for at least one query term in the document.

23. (Previously presented) The method of claim 17 wherein the determining operation comprises:

determining the field length for each field from document statistics associated with the document.

24. (Previously presented) The method of claim 17 wherein the operation of computing a field-weighted document weight comprises:

summing at least one weighted field-specific term frequency of the fields in the document.

25. (Previously presented) The method of claim 17 further comprising:

ranking the field-weighted score with field-weighted scores of other documents.

26. (Currently amended) A computer program product encoding a computer program for executing on a computer system a computer process for determining a field-weighted score for a document having multiple fields relative to a query having a plurality of terms, the computer process comprising:

determining fields of the document, wherein each field includes a contextual section of the document;

determining a field-specific term frequency for each of the determined fields ~~field~~ in the document for each query term;

weighting each field-specific term frequency according to a field weight designated for the ~~corresponding~~ field to compute a field-weighted term frequency for each query term, wherein the field weight is different between fields, wherein the field weight indicates the relevance of the field in the document based on a query type;

computing a field-weighted document weight for each query term based on the field-weighted term frequency for each query term; and

computing the field-weighted score as a function of the field-weighted document weight of all query terms.

27. (Original) The computer program product of claim 26 wherein the query is associated with a search and the field-weighted score represents a level of relevance of the document to the query.

28. (Previously presented) The computer program product of claim 26 wherein the computer process further comprises:

computing a field-weighted document length based on a field weight for each field and a field length for each field, wherein the operation of computing a field-weighted document weight comprises computing a field-weighted document weight for each query term based on the field-weight term frequency for each query term and the field-weighted document length.

29. (Previously presented) The computer program product of claim 26 wherein the computer process further comprises:

computing a field-weighted document length based on a field weight for each field and a field length for each field by summing at least one weighted field lengths of the fields in the document, each weighted field length being a field length weighted by a corresponding field weight.

30. (Previously presented) The computer program product of claim 26 wherein the computer process further comprises:

computing a field-weighted document length based on a field weight for each field and a field length for each field by summing at least one weighted field lengths of the fields in the document, each weighted field length being a field length weighted by a corresponding field weight, wherein the operation of computing a field-weighted document weight comprises computing a field-weighted document weight for each query term based on the field-weight term frequency for each query term and the field-weighted document length.

31. (Previously presented) The computer program product of claim 26 wherein the determining operation comprises:

determining the field-specific term frequency for each field from document statistics associated with the document, the document statistics including a field-weighted term frequency for at least one query term in the document.

32. (Previously presented) The computer program product of claim 26 wherein the determining operation comprises:

determining the field length for each field from document statistics associated with the document.

33. (Previously presented) The computer program product of claim 26 wherein the operation of computing a field-weighted document weight comprises:

summing at least one weighted field-specific term frequency of the fields in the document.

34. (Previously presented) The computer program product of claim 26 further comprising:

ranking the field-weighted score with field-weighted scores of other documents.

35. (Currently amended) A system for determining a field-weighted score for a document having multiple fields relative to a query having a plurality of terms, the system comprising:

a field-weighted term frequency calculator that determines a field-specific term frequency for each field in the document for each query term, wherein each field includes a contextual section of the document, wherein ~~and weights~~ each field-specific term frequency is weighted according to a field weight identified for the corresponding field to compute a field-weighted term frequency for each query term, wherein the field weight is different for the fields, wherein the field weight indicates the relevance of the field in the document based on the query type;

a field-weighted document weight calculator that computes a field-weighted document weight for each query term based on the field-specific term frequency for each query term; and

a document score calculator that computes the field-weighted score as a function of the field-weighted document weight of all query terms.

36. (Original) The system of claim 35 wherein the query is associated with a search and the field-weighted score represents a level of relevance of the document to the query.

37. (Previously presented) The system of claim 35 further comprising:

a field-weighted document length calculator that computes a field-weighted document length based on a field weight for each field and a field length for each field, wherein the field-weighted document weight calculator computes a field-weighted document weight for each query term based on the field-weight term frequency for each query term and the field-weighted document length.

38. (Currently amended) A method of determining a field-weighted score for a document having multiple fields relative to a query having a plurality of query terms, the method comprising:

determining fields of the document, wherein each field includes a contextual section of the document;

computing a field-weighted term frequency for each query term based on field weights designated for individual fields in the document, wherein the field weight is different for the fields, wherein the field weights indicate the relevance of the field in the document based on the query type;

computing a field-weighted document weight for each query term based on the field-weighted term frequency for each field in the document; and

computing the field-weight score as a function of the field-weighted document weights of the query terms.

39. (Previously presented) The method of claim 38 further comprising:

computing a field-weighted document length based on a field weight for each field and a field length for each field, wherein the operation of computing a field-weighted document weight comprises computing a field-weighted document weight for each query term based on the field-weight term frequency for each query term and the field-weighted document length.

40. (Previously presented) The method of claim 38 wherein computing a field-weighted document weight comprises:

computing the field-weighted document weight using a field-weighted free parameter of a BM25 function, the field-weighted free parameter being based on a corresponding optimized free parameter computed in a non-field-weighted configuration.

41. (Previously presented) The method of claim 38 wherein computing a field-weighted document weight comprises:

computing the field-weighted document weight using a field-weighted free parameter of a BM25 function, the field-weighted free parameter being based on an average term frequency over all terms in a non-field-weighted configuration, an average term frequency over all terms in a field-weighted configuration, and a corresponding optimized free parameter computed in the non-field-weighted configuration.

42. (Previously presented) The method of claim 38 wherein computing a field-weighted document weight comprises:

computing the field-weighted document weight using a factor reflecting a dependence on a number of the fields in the document in which a query term occurs.

43. (Previously presented) The method of claim 38 wherein computing a field-weighted score comprises:

computing the field-weighted score using a factor reflecting a dependence on which field in the document includes the most query terms.

44. (Currently amended) A computer program product encoding a computer program for executing on a computer system a computer process for determining a field-weighted score for a document having multiple fields relative to a query having a plurality of query terms, the computer process comprising:

determining fields of the document, wherein each field includes a contextual section of the document;

computing a field-weighted term frequency for each query term based on field weights designated for individual fields in the document, wherein the field weight is different for the fields, wherein the field weights indicate the relevance of the field in the document based on the query type;

computing a field-weighted document weight for each query term based on the field-weighted term frequency for each field in the document; and

computing the field-weight score as a function of the field-weighted document weights of the query terms.

45. (Previously presented) The computer program product of claim 44 wherein the computer process further comprises:

computing a field-weighted document length based on a field weight for each field and a field length for each field, wherein the operation of computing a field-weighted document weight comprises computing a field-weighted document weight for

each query term based on the field-weight term frequency for each query term and the field-weighted document length.

46. (Previously presented) The computer program product of claim 44 wherein computing a field-weighted document weight comprises:

computing the field-weighted document weight using a field-weighted free parameter of a BM25 function, the field-weighted free parameter being based on a corresponding optimized free parameter computed in a non-field-weighted configuration.

47. (Previously presented) The computer program product of claim 44 wherein computing a field-weighted document weight comprises:

computing the field-weighted document weight using a field-weighted free parameter of a BM25 function, the field-weighted free parameter being based on an average term frequency over all terms in a non-field-weighted configuration, an average term frequency over all terms in a field-weighted configuration, and a corresponding optimized free parameter computed in the non-field-weighted configuration.

48. (Previously presented) The computer program product of claim 44 wherein computing a field-weighted document weight comprises:

computing the field-weighted document weight using a factor reflecting a dependence on a number of the fields in the document in which a query term occurs.

49. (Previously presented) The computer program product of claim 44 wherein computing a field-weighted score comprises:

computing the field-weighted score using a factor reflecting a dependence on which field in the document includes the most query terms.

50. (Currently amended) A system for determining a field-weighted score for a document having multiple fields relative to a query having a plurality of query terms, the system comprising:

a field-weighted term frequency calculator that computes a field-weighted term frequency for each query term based on field weights designated for individual fields in the document, wherein the field weight is different for the fields, wherein the field weights indicate the relevance of the field in the document based on the query type;

a field-weighted document weight calculator that computes a field-weighted document weight for each query term based on the field-weighted term frequency for each field in the document; and

a search engine that computes the field-weighted score as a function of the field-weighted document weights of the query terms.

51. (Previously presented) The system of claim 50 further comprising:

a field-weighted document length calculator that computes a field-weighted document length based on a field weight for each field and a field length for each field, wherein the field-weighted document weight calculator computes a field-weighted document weight for each query term based on the field-weight term frequency for each query term and the field-weighted document length.

REMARKS/ARGUMENTS

The claims have been amended as set forth above. Further consideration is respectfully requested as set forth below. No new matter has been added.

I. Examiner Interview

II. Rejection under 35 U.S.C. 103(a)

Claims 1-39, 42-45, and 48-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,960,383 issued to Fleischer (hereinafter "Fleischer") in view of Brin et al. "*The Anatomy of a Large-Scale Hypertextual Web Search Engine*," Sergey Brin and Lawrence Page, Stanford University, Stanford, CA, April 14, 1998 (hereinafter "Brin"). Claims 40, 41, 46 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fleischer in view of Brin and further in view of U.S. publication NO. 2002/0169595 published to Agichtein (hereinafter "Agichtein"). Applicants

respectfully disagree. Independent claim 1 includes the following combination of features that is not taught or suggested by the cited reference:

> ***determining fields of the document, wherein each field includes a contextual section of the document based on the document structure;***
>
> ***determining a field weight for each of the determined fields, wherein the field weight corresponds to a number of times for replicating the content of each of the determined fields;***
>
> ***replicating the content of each of the determined fields the number of times indicated by the field weight for each of the determined fields, wherein the replicated content of each field is concatenated into a field set for each of the determined fields;***
>
> ***combining each concatenated field set for each field of the document to generate a virtual document including each concatenated field set for each field of the document;***
>
> indexing the virtual document to produce a virtual document statistics; and
>
> computing the field-weighted score from the virtual document index based on the query.

The above combination of features is not taught or suggested by the cited references. Fleischer teaches that what is desired in the art is "an automatic means by which to process available documents to provide a reader a synopsis of the material contained in the document." *Fleisher* at col. 1, lines 25-27. Fleischer addresses this need by providing a method and apparatus for condensing a document. *Fleisher* at col. 1, lines 34-37. Fleisher divides the document into a plurality of sections and compares the words of the sections to a document noun phrase list. *Fleisher* at col. 1, lines 41-54. Fleisher counts the number of times that a match occurs between the words of the section and the document noun phrase list. *Fleisher* at col. 1, lines 41-54. The count of matches is then used to rank the section of the document. *Fleisher* at col. 1, lines 41-54. When a user pulls up the document, the sections will be presented to give the reader of synopsis of the material contained in the document. *Fleisher* at col. 1, lines 41-54.

More specifically in Fleisher, the document is ***divided into noun phrases***. The noun phrases are given a weight that is based on the number of times that the noun phrase appears in the document and the typical usage of the noun in the English language.

Fleisher at col. 3, lines 31-52. ***After the noun phrases of the document have been identified and ranked, the document is divided into sections*** (e.g. chapters, paragraphs or sentences). *Fleisher* at col. 3, lines 52-60. Each section is then analyzed to provide a section noun phrase list which corresponds to the section. *Fleisher* at col. 3, lines 61-65. A ***score*** is given to the section ***based on the noun phrases***. Fleisher teaches that "[o]ne method of determining the "score" for a section is to simply add the weights associated with each of the noun phrases identified for the section which are also found in the document noun phrase list 26." *Fleisher* at col. 4, lines 9-14. From the rankings, the Extractor then determines which paragraphs of the original input document will appear in the output text. *Fleisher* at col. 4, lines 16-18. ***Fleisher uses the noun phrase to rank the sections to determine which section to output*** because Fleisher is concerned with providing an automatic means by which to process available documents to provide a reader a synopsis of the material contained in the document.

Brin is the academic paper that seeded Google. Brin teaches a PageRank calculation for a search. The PageRank calculation is an algorithm for ranking a page in a database so that when a user searches a database the most relevant pages are returned. PageRank is an attempt at an objective measure of a page's citation importance. *Brin*, at section 2.1. PageRank takes into account how many pages link or point to the page of interest. For example, a page may have a high PageRank if several pages link or point to the page. *Brin*, at section 2.1. The PageRank is a measure of the significance of the page in a search.

Brin identifies Anchor Text as text of links in a page. For the search engine, Brin associates the text of the link with the page that the link is on and the page that the link points to. Through the double association, searches can be ran for non-text items that are not identified by a web crawler and the accuracy of the search is increased. Here, Brin is teaching calculating a citation importance for a page through a PageRank and using anchor text to improve the accuracy of a search. For example, a user may input a very general search such as "Bill Clinton." The search engine will produce search results that include pages which have a high PageRank (e.g. have been cited to by other documents).

Brin also teaches that "a hit list corresponds to a list of occurrences of a particular word in a particular document including position, font, and capitalization information.

Brin, at section 4.2.5. Brin teaches two types of hits that include fancy hits and plain hits. *Brin*, at section 4.2.5. Fancy hits include hits occurring in a URL, title, anchor text, or meta tag. *Brin*, at section 4.2.5. Plain hits include everything else. *Brin*, at section 4.2.5. The two types of hits are used during the ranking of the documents. Brin teaches that "Google considers each hit to be one of several different types (title, anchor, URL, plain text large font, plain test small font) each having its own type-weight. *Brin*, at section 4.5.1. **Brin does not teach the replication of the document. Brin pertains to the document itself.**

Subbaroyan teaches a method of ***identifying spoof documents***. *Subbaroyan*, at Abstract. Subbaroyan teaches that one method for spoofing a document includes repeating a particular word many times within a document in order to increase its weighting factor. *Subbaroyan*, at col. 11, lines 65-67. Subbaroyan presents an example where the word "museum" is incorporated 50 times within a pornographic Web site. *Subbaroyan*, at col. 12, lines 1-6. When a user searches about museums, the pornographic Web site with be returned to the user. *Subbaroyan*, at col. 11, lines 1-6. The replication in Subbaroyan would occur from a web site designer entering the word museum several times and associating it with a web site. It is not replicated because of a field weight. Stated another way, Subbaroyan teaches that the replication causes the weight. Subbaroyan is not teaching that the weight causes the replication.

The references cannot be combined in the manner propounded. Fleisher and Brin pertain to identifying documents that are relevant to a search. Subbaroyan however pertains to identifying documents which ***are not*** relevant (e.g. spoofed documents). Furthermore, as indicated by the above explanation of the references, neither Fleisher nor Brin nor Subbaroyan teach or otherwise suggest the above combination of features. Neither reference teaches or suggests the combination of "determining fields of the document, wherein each field includes a contextual section of the document based on the document structure", "determining a field weight for each of the determined fields, wherein the field weight corresponds to a number of times for replicating the content of each of the determined fields", "replicating the content of each of the determined fields the number of times indicated by the field weight for each of the determined fields, wherein the replicated content of each field is concatenated into a field set for each of the

determined fields" and "combining each concatenated field set for each field of the document to generate a virtual document including each concatenated field set for each field of the document." Accordingly, applicants assert that claim 1 is allowable over the cited references.

Independent claim 9 includes the following combination of features that is not taught or suggested by the cited reference:

> ***determining fields of the document, wherein each field includes a contextual section of the document based on the document structure;***
>
> ***determining a field weight for each of the determined fields, wherein the field weight corresponds to a number of times for replicating the content of each of the determined fields;***
>
> ***replicating the content of each of the determined fields the number of times indicated by the field weight for each of the determined fields, wherein the replicated content of each field is concatenated into a field set for each of the determined fields;***
>
> ***combining each concatenated field set for each field of the document to generate a virtual document including each concatenated field set for each field of the document;***
>
> indexing the virtual document to produce virtual document statistics; and
>
> computing the field-weighted score from the virtual document index based on the query.

The above combination of features is not taught or suggested by the cited references. Fleischer teaches that what is desired in the art is "an automatic means by which to process available documents to provide a reader a synopsis of the material contained in the document." *Fleisher* at col. 1, lines 25-27. Fleischer addresses this need by providing a method and apparatus for condensing a document. *Fleisher* at col. 1, lines 34-37. Fleisher divides the document into a plurality of sections and compares the words of the sections to a document noun phrase list. *Fleisher* at col. 1, lines 41-54. Fleisher counts the number of times that a match occurs between the words of the section and the document noun phrase list. *Fleisher* at col. 1, lines 41-54. The count of matches is then used to rank the section of the document. *Fleisher* at col. 1, lines 41-54. When a user

pulls up the document, the sections will be presented to give the reader of synopsis of the material contained in the document. *Fleisher* at col. 1, lines 41-54.

More specifically in Fleisher, the document is ***divided into noun phrases***. The noun phrases are given a weight that is based on the number of times that the noun phrase appears in the document and the typical usage of the noun in the English language. *Fleisher* at col. 3, lines 31-52. ***After the noun phrases of the document have been identified and ranked, the document is divided into sections*** (e.g. chapters, paragraphs or sentences). *Fleisher* at col. 3, lines 52-60. Each section is then analyzed to provide a section noun phrase list which corresponds to the section. *Fleisher* at col. 3, lines 61-65. A ***score*** is given to the section ***based on the noun phrases***. Fleisher teaches that "[o]ne method of determining the "score" for a section is to simply add the weights associated with each of the noun phrases identified for the section which are also found in the document noun phrase list 26." *Fleisher* at col. 4, lines 9-14. From the rankings, the Extractor then determines which paragraphs of the original input document will appear in the output text. *Fleisher* at col. 4, lines 16-18. ***Fleisher uses the noun phrase to rank the sections to determine which section to output*** because Fleisher is concerned with providing an automatic means by which to process available documents to provide a reader a synopsis of the material contained in the document.

Brin is the academic paper that seeded Google. Brin teaches a PageRank calculation for a search. The PageRank calculation is an algorithm for ranking a page in a database so that when a user searches a database the most relevant pages are returned. PageRank is an attempt at an objective measure of a page's citation importance. *Brin*, at section 2.1. PageRank takes into account how many pages link or point to the page of interest. For example, a page may have a high PageRank if several pages link or point to the page. *Brin*, at section 2.1. The PageRank is a measure of the significance of the page in a search.

Brin identifies Anchor Text as text of links in a page. For the search engine, Brin associates the text of the link with the page that the link is on and the page that the link points to. Through the double association, searches can be ran for non-text items that are not identified by a web crawler and the accuracy of the search is increased. Here, Brin is teaching calculating a citation importance for a page through a PageRank and using

anchor text to improve the accuracy of a search. For example, a user may input a very general search such as "Bill Clinton." The search engine will produce search results that include pages which have a high PageRank (e.g. have been cited to by other documents).

Brin also teaches that "a hit list corresponds to a list of occurrences of a particular word in a particular document including position, font, and capitalization information. *Brin*, at section 4.2.5. Brin teaches two types of hits that include fancy hits and plain hits. *Brin*, at section 4.2.5. Fancy hits include hits occurring in a URL, title, anchor text, or meta tag. *Brin*, at section 4.2.5. Plain hits include everything else. *Brin*, at section 4.2.5. The two types of hits are used during the ranking of the documents. Brin teaches that "Google considers each hit to be one of several different types (title, anchor, URL, plain text large font, plain test small font) each having its own type-weight. *Brin*, at section 4.5.1. **Brin does not teach the replication of the document. Brin pertains to the document itself.**

Subbaroyan teaches a method of ***identifying spoof documents***. *Subbaroyan*, at Abstract. Subbaroyan teaches that one method for spoofing a document includes repeating a particular word many times within a document in order to increase its weighting factor. *Subbaroyan*, at col. 11, lines 65-67. Subbaroyan presents an example where the word "museum" is incorporated 50 times within a pornographic Web site. *Subbaroyan*, at col. 12, lines 1-6. When a user searches about museums, the pornographic Web site with be returned to the user. *Subbaroyan*, at col. 11, lines 1-6. The replication in Subbaroyan would occur from a web site designer entering the word museum several times and associating it with a web site. It is not replicated because of a field weight. Stated another way, Subbaroyan teaches that the replication causes the weight. Subbaroyan is not teaching that the weight causes the replication.

The references cannot be combined in the manner propounded. Fleisher and Brin pertain to identifying documents that are relevant to a search. Subbaroyan however pertains to identifying documents which ***are not*** relevant (e.g. spoofed documents). Furthermore, as indicated by the above explanation of the references, neither Fleisher nor Brin nor Subbaroyan teach or otherwise suggest the above combination of features. Neither reference teaches or suggests the combination of "determining fields of the document, wherein each field includes a contextual section of the document based on the

document structure", "determining a field weight for each of the determined fields, wherein the field weight corresponds to a number of times for replicating the content of each of the determined fields", "replicating the content of each of the determined fields the number of times indicated by the field weight for each of the determined fields, wherein the replicated content of each field is concatenated into a field set for each of the determined fields" and "combining each concatenated field set for each field of the document to generate a virtual document including each concatenated field set for each field of the document." Accordingly, applicants assert that claim 9 is allowable over the cited references.

Independent claim 17 includes the following combination of features that is not taught or suggested by the cited reference:

> determining fields of the document, wherein each field includes a contextual section of the document;
>
> determining a field-specific term frequency for each of the determined fields in the document for each query term;
>
> ***weighting each field-specific term frequency according to a field weight designated for the field to compute a field-weighted term frequency for each query term, wherein the field weight is different between fields, wherein the field weight indicates the relevance of the field in the document based on a query type***;
>
> computing a field-weighted document weight for each query term based on the field-weighted term frequency for each query term; and
>
> computing the field-weighted score as a function of the field-weighted document weight of all query terms.

As an example of the above combination of features, field weights may be associated with a document ***based on a query type***. Therefore, for example, if a search does an author query, the author field may carry a higher weight for the document and a body field may have a lower weight. Contrariwise, if a search does a text query on the same document, the author field may carry a lower weight for the document and the body field may have a higher weight.

The above combination of features is not taught or suggested by the cited references. Applicants can find no teaching or suggestion in either of the references of

"weighting each field-specific term frequency according to a field weight designated for the field to compute a field-weighted term frequency for each query term, wherein the field weight is different between fields, wherein the field weight indicates the relevance of the field in the document based on a query type." Accordingly, applicants assert that claim 17 is allowable.

Independent claim 26 includes the following combination of features that is not taught or suggested by the cited reference:

> determining fields of the document, wherein each field includes a contextual section of the document;
>
> determining a field-specific term frequency for each of the determined fields in the document for each query term;
>
> ***weighting each field-specific term frequency according to a field weight designated for the field to compute a field-weighted term frequency for each query term, wherein the field weight is different between fields, wherein the field weight indicates the relevance of the field in the document based on a query type***;
>
> computing a field-weighted document weight for each query term based on the field-weighted term frequency for each query term; and
>
> computing the field-weighted score as a function of the field-weighted document weight of all query terms.

As an example of the above combination of features, field weights may be associated with a document ***based on a query type***. Therefore, for example, if a search does an author query, the author field may carry a higher weight for the document and a body field may have a lower weight. Contrariwise, if a search does a text query on the same document, the author field may carry a lower weight for the document and the body field may have a higher weight.

The above combination of features is not taught or suggested by the cited references. Applicants can find no teaching or suggestion in either of the references of "weighting each field-specific term frequency according to a field weight designated for the field to compute a field-weighted term frequency for each query term, wherein the field weight is different between fields, wherein the field weight indicates the relevance

of the field in the document based on a query type." Accordingly applicants assert that claim 26 is allowable over the references.

Independent claim 35 includes the following combination of features that is not taught or suggested by the cited reference:

> ***a field-weighted term frequency calculator that determines a field-specific term frequency for each field in the document for each query term, wherein each field includes a contextual section of the document, wherein each field-specific term frequency is weighted according to a field weight identified for the corresponding field to compute a field-weighted term frequency for each query term, wherein the field weight is different for the fields, wherein the field weight indicates the relevance of the field in the document based on the query type***;
>
> a field-weighted document weight calculator that computes a field-weighted document weight for each query term based on the field-specific term frequency for each query term; and
>
> a document score calculator that computes the field-weighted score as a function of the field-weighted document weight of all query terms.

As an example of the above combination of features, field weights may be associated with a document ***based on a query type***. Therefore, for example, if a search does an author query, the author field may carry a higher weight for the document and a body field may have a lower weight. Contrariwise, if a search does a text query on the same document, the author field may carry a lower weight for the document and the body field may have a higher weight.

The above combination of features is not taught or suggested by the cited references. Applicants can find no teaching or suggestion in either of the references of "weighting each field-specific term frequency according to a field weight designated for the field to compute a field-weighted term frequency for each query term, wherein the field weight is different between fields, wherein the field weight indicates the relevance of the field in the document based on a query type." Accordingly applicants assert that claim 35 is allowable over the references.

Independent claim 38 includes the following combination of features that is not taught or suggested by the cited reference:

> determining fields of the document, wherein each field includes a contextual section of the document;

computing a field-weighted term frequency for each query term based on field weights designated for individual fields in the document, wherein the field weight is different for the fields, wherein the field weights indicate the relevance of the field in the document based on the query type;

computing a field-weighted document weight for each query term based on the field-weighted term frequency for each field in the document; and

computing the field-weight score as a function of the field-weighted document weights of the query terms.

As an example of the above combination of features, field weights may be associated with a document ***based on a query type***. Therefore, for example, if a search does an author query, the author field may carry a higher weight for the document and a body field may have a lower weight. Contrariwise, if a search does a text query on the same document, the author field may carry a lower weight for the document and the body field may have a higher weight.

The above combination of features is not taught or suggested by the cited references. Applicants can find no teaching or suggestion in either of the references of "computing a field-weighted term frequency for each query term based on field weights designated for individual fields in the document, wherein the field weight is different for the fields, wherein the field weights indicate the relevance of the field in the document based on the query type." Accordingly applicants assert that claim 38 is allowable over the references.

Independent claim 44 includes the following combination of features that is not taught or suggested by the cited reference:

determining fields of the document, wherein each field includes a contextual section of the document;

computing a field-weighted term frequency for each query term based on field weights designated for individual fields in the document, wherein the field weight is different for the fields, wherein the field weights indicate the relevance of the field in the document based on the query type;

computing a field-weighted document weight for each query term based on the field-weighted term frequency for each field in the document; and

computing the field-weight score as a function of the field-weighted document weights of the query terms.

As an example of the above combination of features, field weights may be associated with a document ***based on a query type***. Therefore, for example, if a search does an author query, the author field may carry a higher weight for the document and a body field may have a lower weight. Contrariwise, if a search does a text query on the same document, the author field may carry a lower weight for the document and the body field may have a higher weight.

The above combination of features is not taught or suggested by the cited references. Applicants can find no teaching or suggestion in either of the references of "computing a field-weighted term frequency for each query term based on field weights designated for individual fields in the document, wherein the field weight is different for the fields, wherein the field weights indicate the relevance of the field in the document based on the query type." Accordingly applicants assert that claim 44 is allowable over the references.

Independent claim 50 includes the following combination of features that is not taught or suggested by the cited reference:

a field-weighted term frequency calculator that computes a field-weighted term frequency for each query term based on field weights designated for individual fields in the document, wherein the field weight is different for the fields, wherein the field weights indicate the relevance of the field in the document based on the query type;

a field-weighted document weight calculator that computes a field-weighted document weight for each query term based on the field-weighted term frequency for each field in the document; and

a search engine that computes the field-weighted score as a function of the field-weighted document weights of the query terms.

As an example of the above combination of features, field weights may be associated with a document ***based on a query type***. Therefore, for example, if a search does an author query, the author field may carry a higher weight for the document and a body field may have a lower weight. Contrariwise, if a search does a text query on the

same document, the author field may carry a lower weight for the document and the body field may have a higher weight.

The above combination of features is not taught or suggested by the cited references. Applicants can find no teaching or suggestion in either of the references of "a field-weighted term frequency calculator that computes a field-weighted term frequency for each query term based on field weights designated for individual fields in the document, wherein the field weight is different for the fields, wherein the field weights indicate the relevance of the field in the document based on the query type." Accordingly applicants assert that claim 50 is allowable over the references.

With regard to the dependent claims, they include features not taught or suggested by the cited references. Moreover, they ultimately depend from the independent claims above. As such, they should be found allowable for at least the same reasons stated above.

An interview was conducted on the above-identified application on _____. NOTE: This form should be completed by applicant and submitted to the examiner in advance of the interview (see MPEP § 713.01).

This application will not be delayed from issue because of applicant's failure to submit a written record of this interview. Therefore, applicant is advised to file a statement of the substance of this interview (37 CFR 1.133(b)) as soon as possible.

_____ _____

Applicant/Applicant's Representative Signature Examiner/SPE Signature

_Ryan T. Grace_____

Typed/Printed Name of Applicant or Representative

_52,956_____

Registration Number, if applicable